

CLAIMS

1. An apparatus for discrete distribution of granules, such as seed, fertiliser or
5 the like comprising a path forming device having an inlet (6) adapted to be
associated with a granules container of an agricultural machine, and an outlet
(7) adapted to be associated with a coulter of the agricultural machine,
characterised in that said path (25) is defined by at least one wall extending
on either sides of and along at least a part of the extension of said path,
10 wherein said path is formed about a substantially vertical axis.
2. An apparatus according to claim 1, wherein said path forming device
comprises at least one housing having a circular cross-section, and at least one
distributing member having at least partly an annular periphery about said
15 central axis, wherein said distributing member during use has at least partly a
downward sloping surface from said central axis towards an inside wall of the
housing, and/or said inside wall has at least partly a downeard sloping surface
towards said distributing member, wherein said inside wall and said
distributing member form said path.
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3. An apparatus according to claim 2, wherein either of said housing and said
distributing member are rotatably arranged in relation to one another.
4. An apparatus according to claim 2, wherein both of said housing and said
25 distributing member are rotatably arranged in relation to one another.
5. An apparatus according to claim 4, wherein said housing and said
distributing member are rotatably arranged in opposite directions.

6. An apparatus according to claim 4, wherein said housing and said distributing member are arranged to be rotatable in the same direction, however with different speeds.
- 5 7. An apparatus according to claim 2, wherein either of said housing and said distributing member are arranged in a fixed relationship, and are adapted to be associated with a vibration device.
8. An apparatus according to claim 1 - 7, wherein a guide member is arranged to retain the granules in the path, at least in proximity to the outlet.
- 10 9. An apparatus according to claim 8, wherein the guide member covers substantially the whole path.
- 15 10. An apparatus according to anyone of claims 2 - 9, wherein at least the surface of either of or both of the distributing member and the housing is made of a flexible material.
11. An apparatus according to anyone of claims 2 - 10, wherein at least one further distributing member is provided downstream the distributing member and in the same housing.
- 20 12. An apparatus according to anyone of the claims 2 - 11, wherein at least one further distributing member is provided downstream the distributing member and in a separate housing.
- 25 13. An apparatus according to claim 11 or 12, wherein said further distributing member is arranged such that during use, the path of said distributing member and said further distributing member are at least partly in the same horizontal plane.
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14. An apparatus according to claim 11 or 12, wherein said further distributing member is arranged such that the path thereof is in a plane lower than that of said distributing member.

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15. An apparatus according to anyone of claims 11 - 14, wherein the distributing member and the further distributing member are associated with a power source in such a way that they have substantially the same speed.

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16. An apparatus according to anyone of claims 11 - 14, wherein the distributing member and the further distributing member are associated with a power source in such a way that the further distributing member has a higher speed than the distributing member.

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17. An apparatus according to anyone of claims 2 - 7, wherein said distributing member is helically shaped with constant pitch.

18. An apparatus according to anyone of claims 2 - 7, wherein said distributing member is helically shaped with a pitch increasing in the direction of flow.

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19. An apparatus according to anyone of claims 2 - 18, wherein said housing is at least partly tubular.

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20. An apparatus according to anyone of claims 2 - 19, wherein said housing is at least partly conical in the direction of flow.

21. An apparatus according to anyone of claims 2 - 20, wherein said housing is at least partly spherical.

22. An apparatus according to anyone of claims 1 – 7, wherein said path is formed by a helical tube.

23. An apparatus according to claim 22, wherein the helical tube forms at least
5 a part of a cone.

24. An apparatus according to claim 22 or 23, wherein at least a portion of said helical tube has substantially a V-shaped cross-section, forming said path.

10 25. An apparatus according to anyone of the preceding claims, wherein at least a part of said wall has a friction enhancing surface.

26. An apparatus according to anyone of the preceding claims, wherein at least a part of said wall has a friction reducing surface.

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27. An apparatus for discrete distribution of granules, such as seed, fertiliser or the like, comprising a housing, at least one inlet member of said housing adapted to be associated with a granules container for of an agricultural machine, at least one outlet member of said housing adapted to be associated
20 with a coulter of the agricultural machine, and a distributing member having an annular periphery and a central axis, wherein said distributing member during use has at partly a downward sloping surface from said central axis towards an inside wall of the housing, **characterised in that** at least one further distributing member is arranged downstream the first distributing
25 member.

28. An apparatus according to claim 27, wherein both of said first distributing member are rotatably arranged, wherein said second distributing member has a higher peripheral velocity that that of the first distributing member.

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29. An apparatus according to claim 27 or 28, wherein said first distributing member has a first peripheral circular cross-section and, wherein said second distributing member has a second peripheral circular cross-section, said second cross-section having a larger diameter than that of said first cross-section.

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30. An apparatus according to claim 27 or 28, wherein said first distributing member has a first peripheral circular cross-section and, wherein said second distributing member has a second peripheral circular cross-section, said second cross-section being substantially the same.

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31. Agricultural machine comprising a container for granules, such as seed, fertiliser or the like, a coulter for placing granules at a predetermined depth in the soil, **characterised in that** it comprises an apparatus according to any of the preceding claims, said apparatus being associated with the container and
15 with the coulter.